ANKERSMID Peltier cooler

APC 14xx/15xx/16xx Series

* Pictures may vary

Application

Ankersmid Peltier Coolers are used to lower the dew point of humid gas to avoid condensate entering into the gas analyser.

A good and stable gas dew point avoids cross-interference if the analyser is sensitive to H_2O.

Description

This unique microprocessor controlled Peltier Cooler has been designed with a powerful dew point stabiliser. The dew point is set at 4°C but can be changed at any value between 1 and 15°C. The condensate that is formed should be removed by a peristaltic pump, automatic drain or collection vessel.

The heat exchanger is demountable and PFA®-coated.

The digital controlled cooler has many control and warning features like programmable alarms, mA-output, digital inputs and Modbus or RS485 communication.
The alarm status changes when the temperature deviates by ± 3 °C from the set point.

Available for 230VAC and 115VAC power supply.

Extra Features

Ankersmid's electronically controlled Peltier cooler incorporates a unique design of demountable heat exchangers. This versatile design creates many possibilities. One of the important available features is the humidification of calibration gases to avoid volumetric errors.
Humidification is achieved with a special inlet for liquids. During calibration the heat exchanger dries out due to the dry calibration gas; this volumetric change is important for reference measurements. Injection of liquid during calibration can avoid this issue.

- **Special demountable heat-exchanger with unique design**
- **Humidified heat-exchanger for calibration cross-interference compensation**
- **Digital controlled high stable outlet dew point ± 0,1°C**
- **Ambient temperature up to +50°C**
- **Alarm contact**
- **Optional digital communication Modbus/RS485**
- **Power supply 115/230VAC**
- **Universal housing for 3 different versions; 1x 200Nl/h, 2x 200Nl/h or 1x 350Nl/h**
- **Isolation cap for head exchanger head to avoid condensation**

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Technical data

Model APC xxxx	14x3	15x3	16x3
Number of heat exchanger	1	2	1
Housing version	Stainless steel/Aluminum anodized, Wall-mounting		
Dimensions (HxLxD)	200 x 280 x 190mm		
Data per heat exchanger			
Gas flow rate	1x 200Nl/h max.	2x 200Nl/h max.	1x 350Nl/h max.
Sealing	Viton®	Viton®	Viton®
Maximum pressure	10 bar a	10 bar a	10 bar a
Pressure drop	3mbar at 200Nl/h	3mbar at 200Nl/h	5mbar at 350Nl/h
Dead volume	35cm³	35cm³	100 cm³
Sample gas inlet	1x 1/4"f NPT	1x 1/4"f NPT	1x 1/4"f NPT
Sample gas outlet	1x 1/4"f NPT	1x 1/4"f NPT	1x 1/4"f NPT
Condensate outlet	1x 3/8"f NPT	1x 3/8"f NPT	1x 3/8"f NPT
Material of gas wetted parts	PFA®		
Operation data			
Gas inlet dew point	Max. 50°C		
Gas inlet temperature	Max. 190°C		
Gas outlet temperature	+1°C ... +15°C, factory setting: +4°C		
Total cooling capacity	Max. 245kJ/h		
Stability	0,1°C at ambient temperature 20°C		
Ambient temperature	+5°C to 45°C		
Electrical data general			
Mains connection	Electrical terminals 2,5mm² / Cable gland 2 x PG13		
Alarm contact	Free programmable contact 1NO / 1NC, rating: 250V, 16A AC		
Alarm set points	< +2°C / > +10°C		
Protection class	IP20 EN 60529 / EN 61010		
Electrical protection	Fuse 1,6A		
Power consumption	2 Peltier elements á 34W		
Weight	4,0 kg	4,6 kg	4,5 kg
Model APC	**1403**	**1503**	**1603**
Power supply	230VAC, 50/60Hz		
Model APC	**1413**	**1513**	**1613**
Power supply	115VAC, 50/60Hz		

Maximum values in technical data's must be rated in consideration of total cooling capacity at 25°C ambient temperature and 5°C outlet dew point

PTFE = Polytetrafluoroethylene (Teflon®) PVDF = Polyvinylidenfluoride
FFPM = Perfluorelastomer (Kalrez®) PPS = Polypropylenesulphide (Ryton®)

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Performance